SONY

4-227-987-**13**(1)

FM Stereo FM-AM Receiver

Operating Instructions

STR-DE545
STR-DE445
STR-SE501

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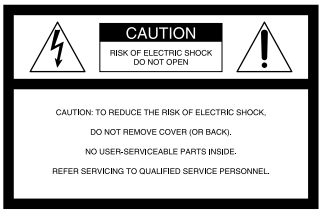
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

CAUTION

You are cautioned that any changes or modification not expressly approved in this manual could void your authority to operate this equipment.

Note to CATV system installer:

This reminder is provided to call CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

ENERGY STAR® is a U.S. registered mark.
As an ENERGY STAR® partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Owner's Record

The model and serial numbers are located on the rear of the unit. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. STR-DE545/DE445/SE501
Serial No. _____

Precautions

On safety

Should any solid object or liquid fall into the cabinet, unplug the receiver and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the receiver, check that the operating voltage is identical with your local power supply. The operating voltage is indicated on the nameplate at the rear of the receiver.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- If you are not going to use the receiver for a long time, be sure to disconnect the receiver from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- AC power cord must be changed only at the qualified service shop.

On placement

- Place the receiver in a location with adequate ventilation to prevent heat buildup and prolong the life of the receiver.
- Do not place the receiver near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place anything on top of the cabinet that might block the ventilation holes and cause malfunctions.

On operation

Before connecting other components, be sure to turn off and unplug the receiver.

On cleaning

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

If you have any question or problem concerning your receiver, please consult your nearest Sony dealer.

About This Manual

The instructions in this manual are for the STR-DE545, STR-DE445 and STR-SE501. Check your model number by looking at the upper right corner of the front panel or lower right corner of the remote. In this manual, the STR-DE545 and the remote commander RM-U304 are used for illustration purposes unless stated otherwise. Any difference in operation is clearly indicated in the text, for example, "STR-DE545 only".

Type of differences

Feature \ Model	DE545	DE445	SE501
CONTROL A1-II	●		●
SPEAKERS FRONT B	●		●
S-Video	●		●
TV/SAT OPTICAL IN	●		●
AC OUTLET	●		●
IMPEDANCE SELECTOR	●		●

Conventions

- The instructions in this manual describe the controls on the receiver. You can also use the controls on the supplied remote if they have the same or similar names as those on the receiver. For details on the use of the remote RM-PP404 (STR-DE545 and STR-SE501 only), refer to the separate operating instructions supplied with the remote.
- The following icon is used in this manual:
  Indicates hints and tips for making the task easier.

This receiver incorporates Dolby* Digital and Pro Logic Surround and the DTS** Digital Surround System.

* *Manufactured under license from Dolby Laboratories. "Dolby", "AC-3", "Pro Logic" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories.*

***Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942 and other worldwide patents issued and pending. "DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc. © 1996 Digital Theater Systems, Inc. All rights reserved.*

Demonstration Mode

The demonstration will activate the first time you turn on the power. When the demonstration starts, the following message appears in the display:

"NOW DEMONSTRATION MODE IF YOU FINISH DEMONSTRATION PLEASE PRESS POWER KEY WHILE THIS MESSAGE APPEARS IN THE DISPLAY THANK YOU"

To cancel the demonstration

Press I/⏻ to turn the receiver off while the above message is being displayed. The next time you turn the receiver on, the demonstration will not appear.

To view the demonstration

Hold down SET UP and press I/⏻ to turn on the power.

Notes

- Running the demonstration will clear the receiver's memory. For details on what will be cleared, see "Clearing the receiver's memory" on page 15.
- There will be no sound when the demonstration mode is activated.

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Hooking Up the Components

This chapter describes how to connect various audio and video components to the receiver. Be sure to read the sections for the components you have before you actually connect them to the receiver.

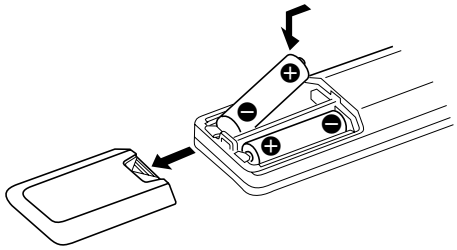
Unpacking

Check that you received the following items with the receiver:

- FM wire antenna (1)
- AM loop antenna (1)
- R6 (size-AA) batteries (2)
- STR-DE545 and STR-SE501 only
  - Remote Commander RM-PP404 (remote) (1)
  - Operating instructions of the remote (1)
  - Operating instructions of CONTROL A1 II (1)
- STR-DE445 only
  - Remote Commander RM-U304 (remote) (1)

Inserting batteries into the remote

Insert R6 (size-AA) batteries with the + and – properly oriented in the battery compartment. When using the remote, point it at the remote sensor ▣ on the receiver.



For details, refer to the operating instructions supplied with your remote (STR-DE545 and STR-SE501 only).

When to replace batteries

Under normal conditions, the batteries should last for about 6 months. When the remote no longer operates the receiver, replace all batteries with new ones.

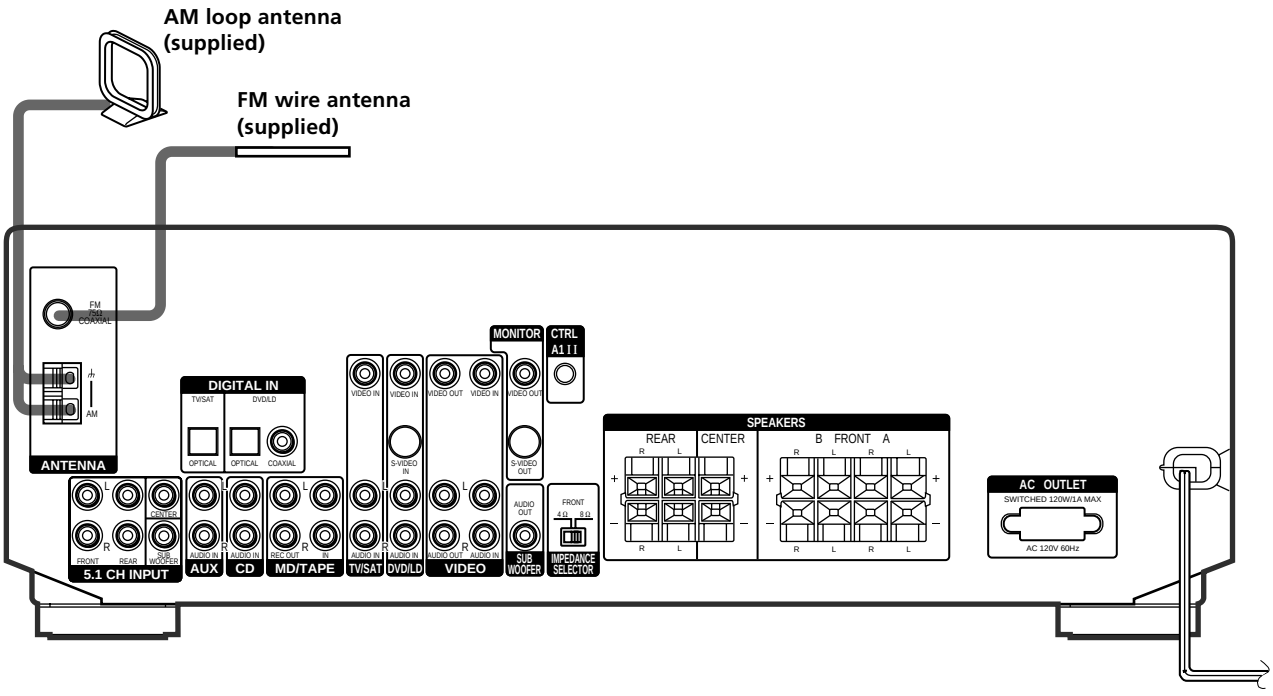
Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not use a new battery with an old one.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you don't use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Before you get started

- Turn off the power to all components before making any connections.
- Do not connect the AC power cords until all of the connections are completed.
- Be sure to make connections firmly to avoid hum and noise.
- When connecting an audio/video cord, be sure to match the color-coded pins to the appropriate jacks on the components: yellow (video) to yellow; white (left, audio) to white; and red (right, audio) to red.

Antenna Hookups



Terminals for connecting the antennas

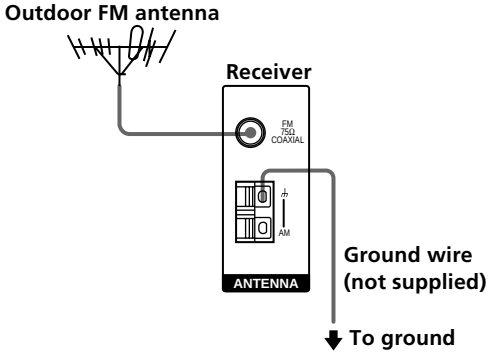
Connect the	To the
AM loop antenna	AM terminals
FM wire antenna	FM 75Ω COAXIAL terminal

Notes on antenna hookups

- To prevent noise pickup, keep the AM loop antenna away from the receiver and other components.
- Be sure to fully extend the FM wire antenna.
- After connecting the FM wire antenna, keep it as horizontal as possible.

If you have poor FM reception

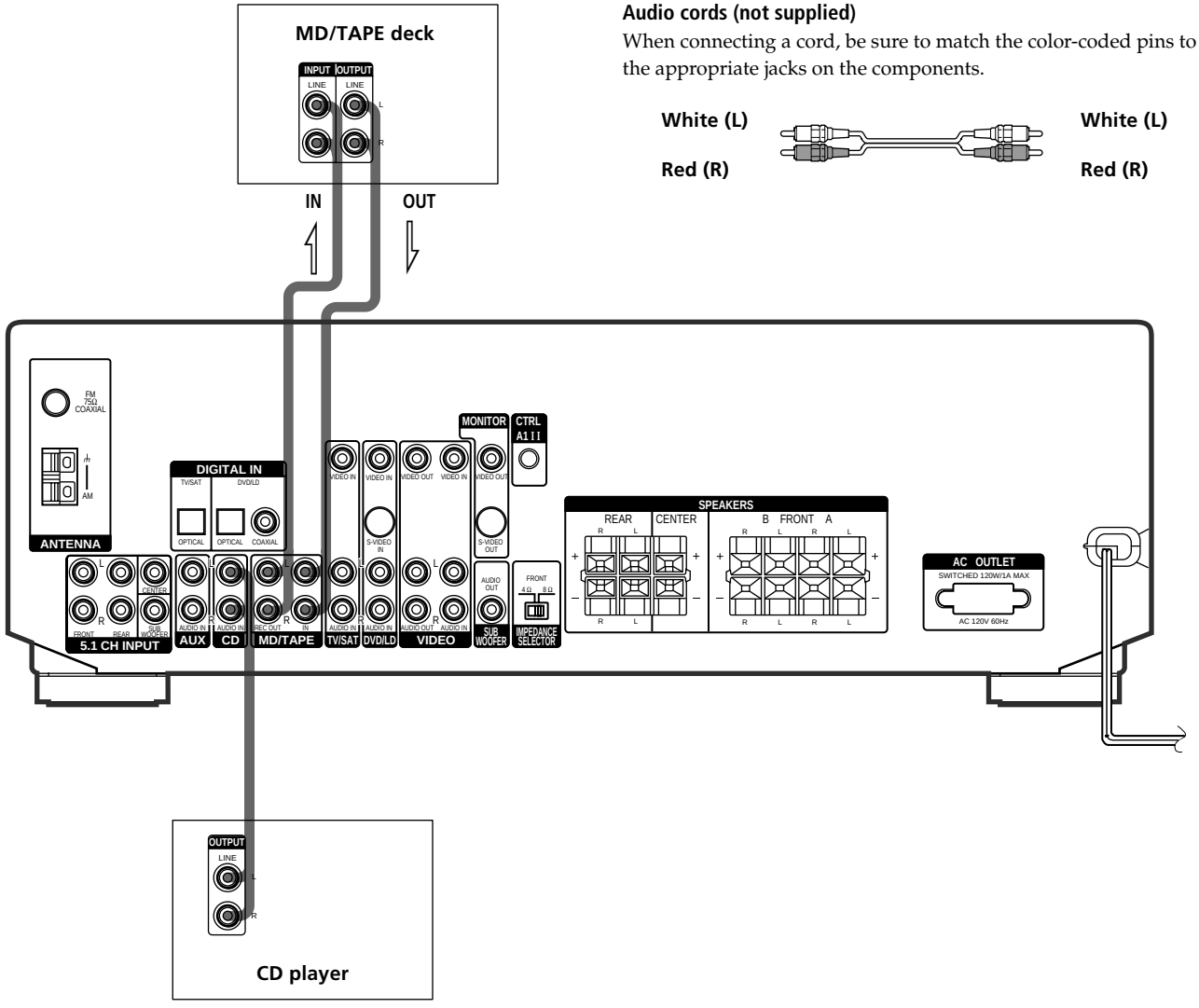
Use a 75-ohm coaxial cable (not supplied) to connect the receiver to an outdoor FM antenna as shown below.



Important

If you connect the receiver to an outdoor antenna, ground it against lightning. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

Audio Component Hookups



Required cords

Audio cords (not supplied)

When connecting a cord, be sure to match the color-coded pins to the appropriate jacks on the components.

Jacks for connecting audio components

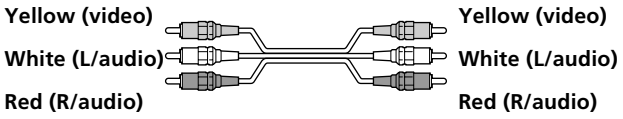
Connect a	To the
CD player	CD jacks
MD deck or Tape deck	MD/TAPE jacks

Video Component Hookups

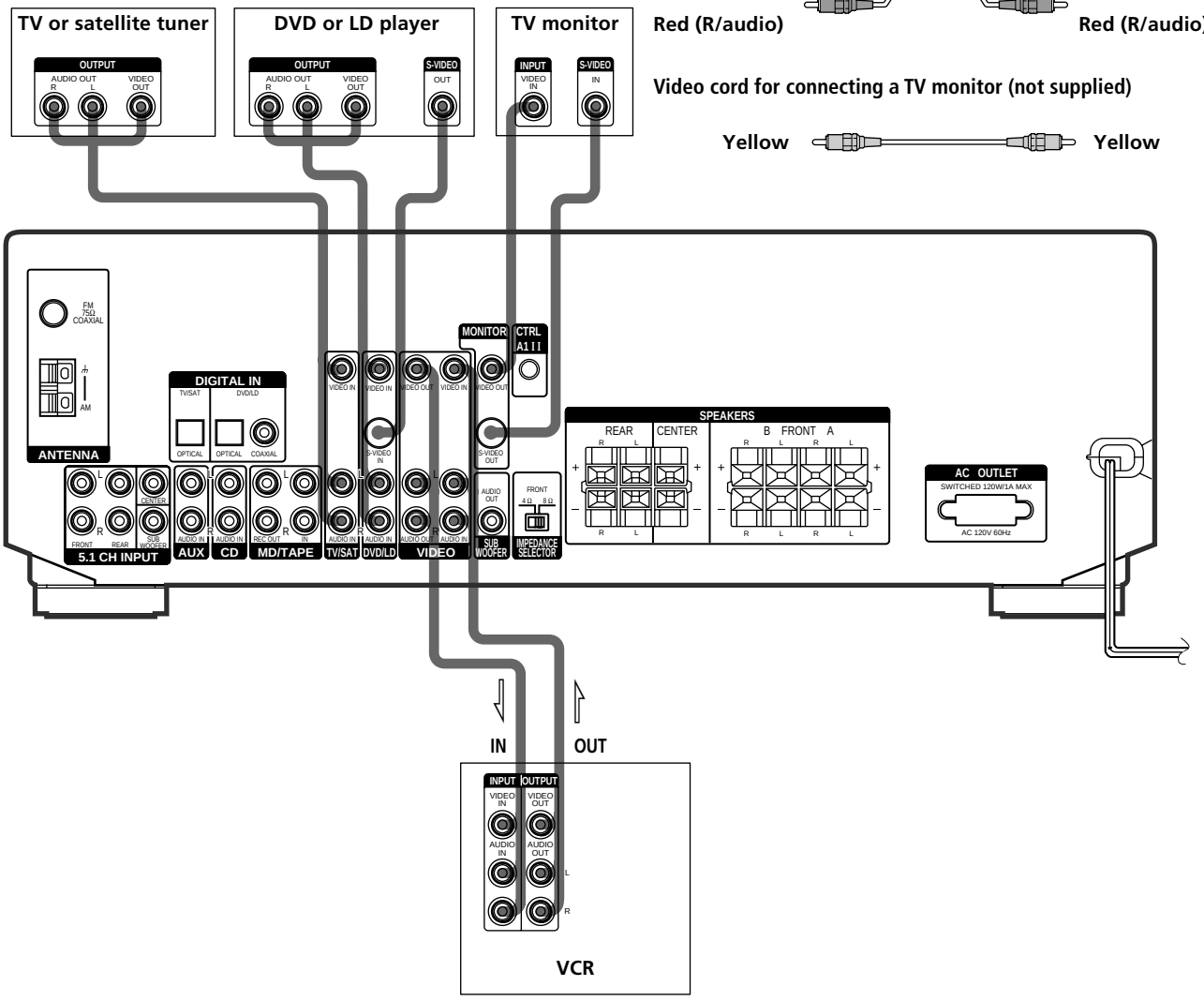
Required cords

Audio/video cords (not supplied)

When connecting a cord, be sure to match the color-coded pins to the appropriate jacks on the components.



Video cord for connecting a TV monitor (not supplied)



Jacks for connecting video components

Connect a	To the
TV or satellite tuner	TV/SAT jacks
VCR	VIDEO jacks
DVD or LD player	DVD/LD jacks
TV monitor	MONITOR VIDEO OUT jack

Note on video component hookups

You can connect your TV's audio output jacks to the TV/SAT AUDIO IN jacks on the receiver and apply sound effects to the audio from the TV. In this case, do not connect the TV's video output jack to the TV/SAT VIDEO IN jack on the receiver. If you are connecting a separate TV tuner (or satellite tuner), connect both the audio and video output jacks to the receiver as shown above.

When using the S-video jacks instead of the video jacks (STR-DE545 and STR-SE501 only)

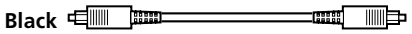
Your monitor must also be connected via an S-video jack. S-video signals are on a separate bus from the video signals and will not be output through the video jacks.

Digital Component Hookups

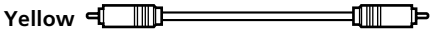
Connect the digital output jacks of your DVD player and satellite tuner (etc.) to the receiver's digital input jacks to bring the multi channel surround sound of a movie theater into your home. To enjoy full effect of multi channel surround sound, five speakers (two front speakers, two rear speakers, and a center speaker) and a sub woofer are required. You can also connect an LD player with an RF OUT jack via an RF demodulator, such as the Sony MOD-RF1 (not supplied).

Required cords

Optical digital cords (not supplied)



Coaxial digital cord (not supplied)

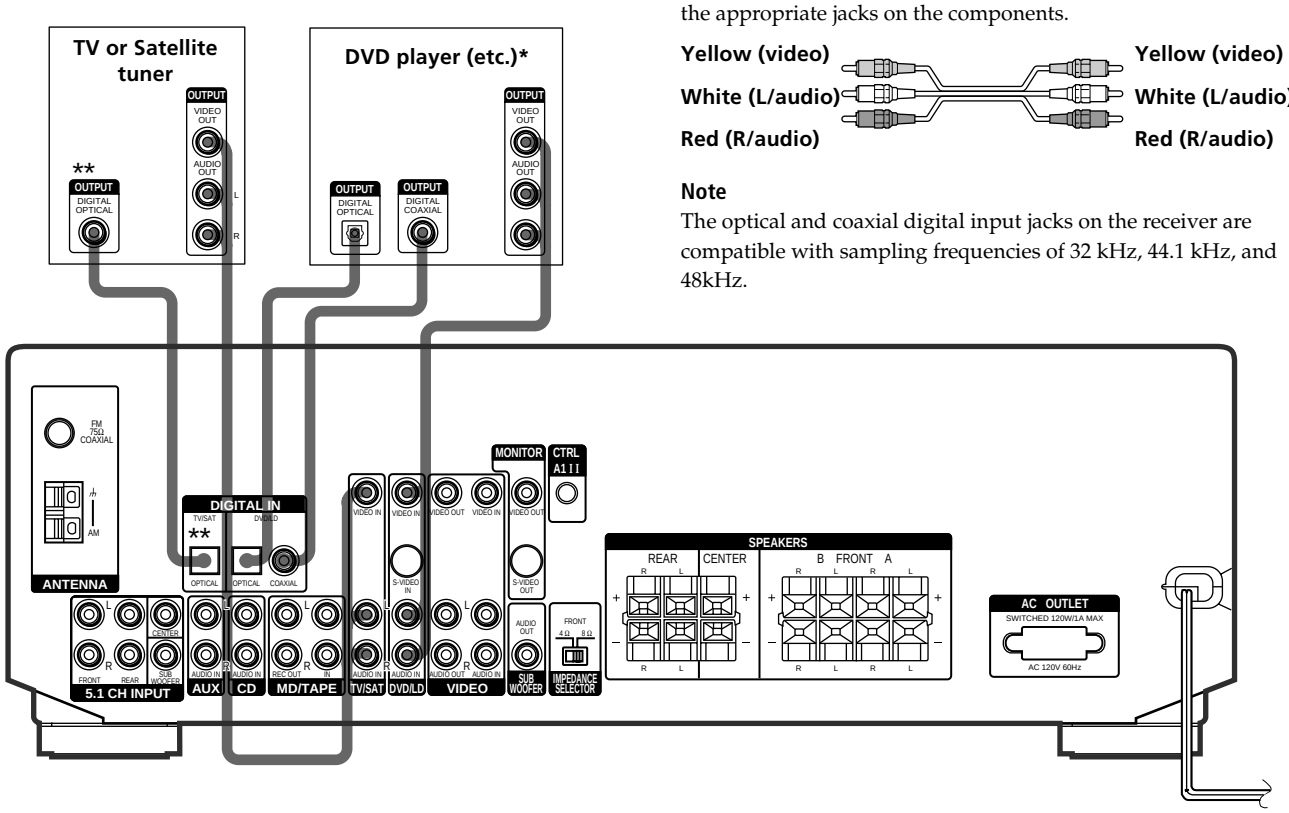


Audio/video cords (not supplied)

When connecting a cord, be sure to match the color-coded pins to the appropriate jacks on the components.

Note

The optical and coaxial digital input jacks on the receiver are compatible with sampling frequencies of 32 kHz, 44.1 kHz, and 48kHz.

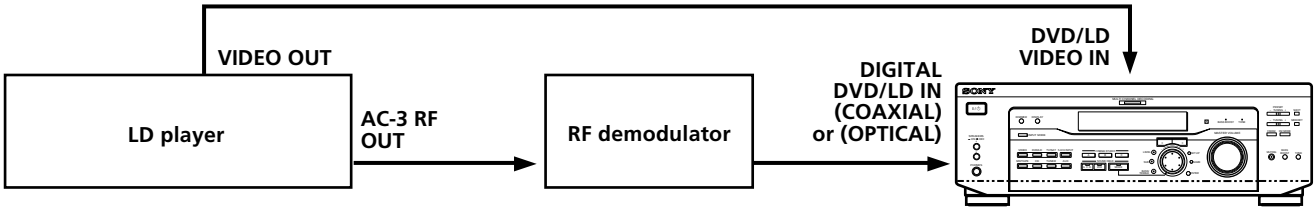


* *When making digital audio connections to a DVD player, connect to either the coaxial OR optical digital jacks, and not both. It is recommended to make digital audio connections to the coaxial jack.*

** *STR-DE545 and STR-SE501 only.*

Example of LD player connected via an RF demodulator

Please note that you cannot connect an LD player's AC-3 RF OUT jack directly to the receiver's digital input jacks. You must first convert the RF signal to either an optical or coaxial digital signal. Connect the LD player to the RF demodulator, then connect the RF demodulator's optical or coaxial digital output to the receiver's OPTICAL or COAXIAL DVD/LD IN jack. Refer to the instruction manual supplied with your RF Demodulator for details on AC-3 RF hookups.



Note

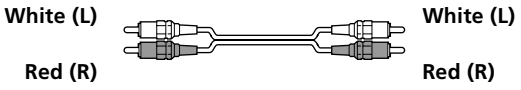
When making connections as shown above, be sure to set INPUT MODE (3 on page 23) manually. The receiver may not operate correctly if INPUT MODE is set to "AUTO."

5.1CH Input Hookups

Although this receiver incorporates a multi channel decoder, it is also equipped with 5.1CH INPUT jacks. These connections allow you to enjoy multichannel software encoded in formats other than Dolby Digital (AC-3) and DTS. If your DVD player is equipped with 5.1CH OUTPUT jacks, you can connect them directly to the receiver to enjoy the sound of the DVD player's multi channel decoder. Alternatively, the 5.1CH INPUT jacks can be used to connect an external multi channel decoder. To fully enjoy multi channel surround sound, you will need five speakers (two front speakers, two rear speakers, and a center speaker) and a sub woofer. Refer to the instruction manual supplied with your DVD player, multi channel decoder, etc., for details on the 5.1 channel input hookups.

Required cords

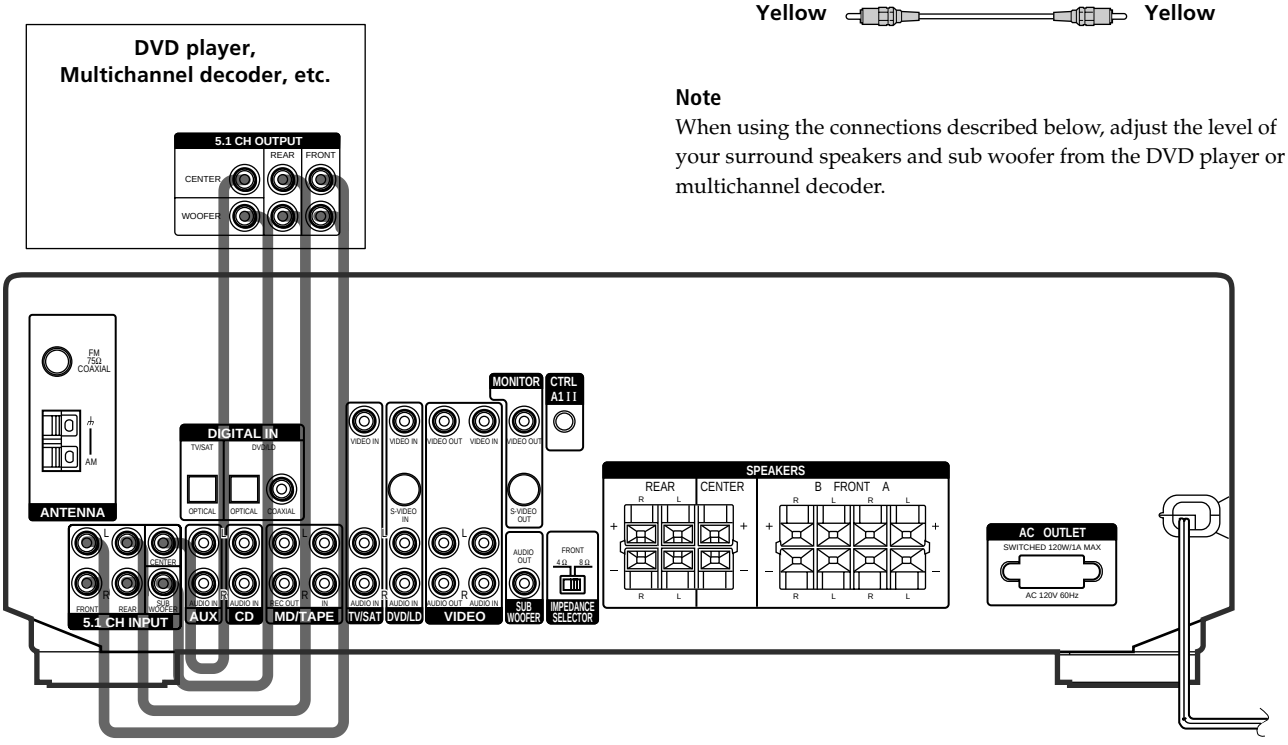
Audio cords (not supplied)
Two for the 5.1CH INPUT FRONT and REAR jacks



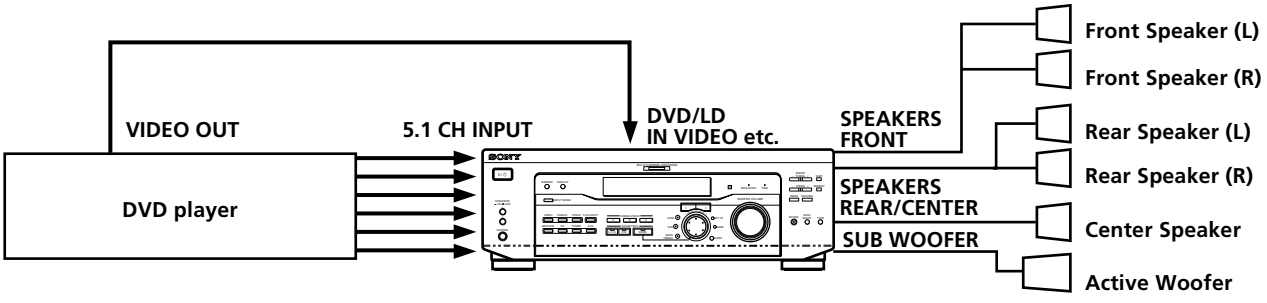
Monaural audio cords (not supplied)
Two for the 5.1CH INPUT CENTER and WOOFER jacks

Video cord (not supplied)
One for the DVD/LD VIDEO IN jacks (etc.)

Note
When using the connections described below, adjust the level of your surround speakers and sub woofer from the DVD player or multichannel decoder.



Example of a DVD player hookup using the 5.1 INPUT jacks



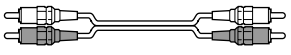
Note
See page 13 for details on speaker system hookup.

Other Hookups

Required cords

Audio cords (not supplied)

When connecting a cord, be sure to match the color-coded pins to the appropriate jacks on the components.

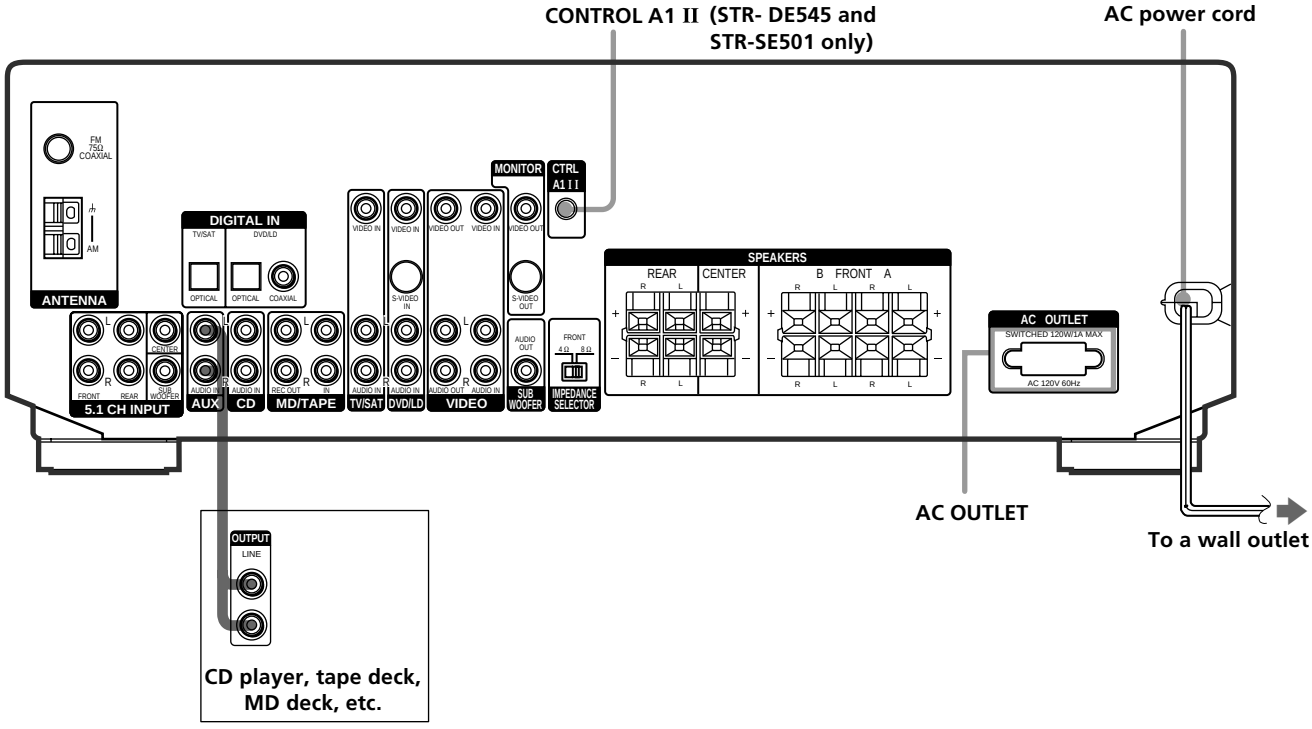


White (L)
Red (R)

White (L)
Red (R)

Control A1 connecting cord (not supplied) (STR-DE545 and STR-SE501 only)

Black **Black**



CONTROL A1 II hookup (STR-DE545 and STR-SE501 only)

- **If you have a CONTROL A1 II compatible Sony CD player, tape deck, or MD deck**
  Use a CONTROL A1 cord (not supplied) to connect the CONTROL A1 II jack on the CD player, tape deck, or MD deck to the CONTROL A1 II jack on the receiver. Refer to the separate manual "CONTROL-A1 II Control System" and the operating instructions supplied with your CD player, tape deck, or MD deck for details.

Note

If you make CONTROL A1 II connections from the receiver to an MD deck that is also connected to a computer, do not operate the receiver while using the "Sony MD Editor" software. This may cause a malfunction.

- **If you have a Sony CD changer with a COMMAND MODE selector**
  If your CD changer's COMMAND MODE selector can be set to CD 1, CD 2, or CD 3, be sure to set the command mode to "CD 1" and connect the changer to the CD jacks on the receiver.
  If, however, you have a Sony CD changer with VIDEO OUT jacks, set the command mode to "CD 2" and connect the changer to the VIDEO IN jacks on the receiver.

AUX AUDIO IN hookup

- **If you have an individual audio component (except PHONO)**
  Use the audio cords to connect the LINE OUT jacks on the CD player, tape deck, or MD deck to the AUX AUDIO IN jack on the receiver so that you can listen to stereo sources in surround sound.

Connecting the AC power cord

Before connecting the AC power cord of this receiver to a wall outlet:

- Connect the speaker system to the receiver (see page 13).

Connect the AC power cord(s) of your audio/video components to a wall outlet.

STR-DE545 and STR-SE501 only

If you connect other audio/video components to the AC OUTLET(s) on the receiver, the receiver will supply power to the connected component(s), allowing you to turn the whole system on or off when you turn the receiver on or off.

Caution

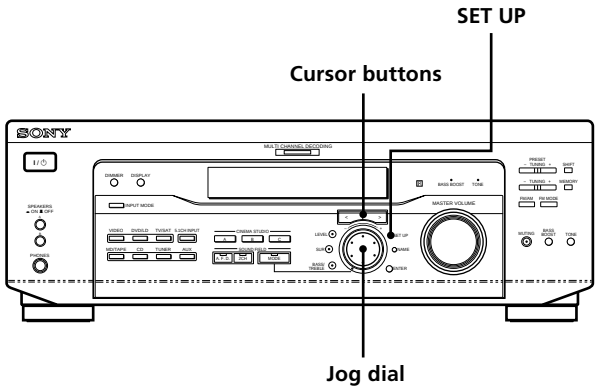
Make sure that the total power consumption of the component(s) connected to the receiver's AC OUTLET(s) does not exceed the wattage stated on the rear panel. Do not connect high-wattage electrical home appliances such as electric irons, fans, or TVs to this outlet. (STR-DE545 and STR-SE501 only)

Note

If the AC power cord is disconnected for about two weeks, the receiver's entire memory will be cleared and the demonstration will start.

Hooking Up and Setting Up the Speaker System

This chapter describes how to hook up your speaker system to the receiver, how to position each speaker, and how to set up your speakers to enjoy multi channel surround sound.



Brief descriptions of buttons and control used to set up the speaker system

SET UP button: Press to enter the setup mode when specifying speaker types and distances.

Cursor buttons (</>): Use to select parameters after pressing the SET UP button.

Jog dial: Use to adjust the setting of each parameter.

Speaker System Hookup

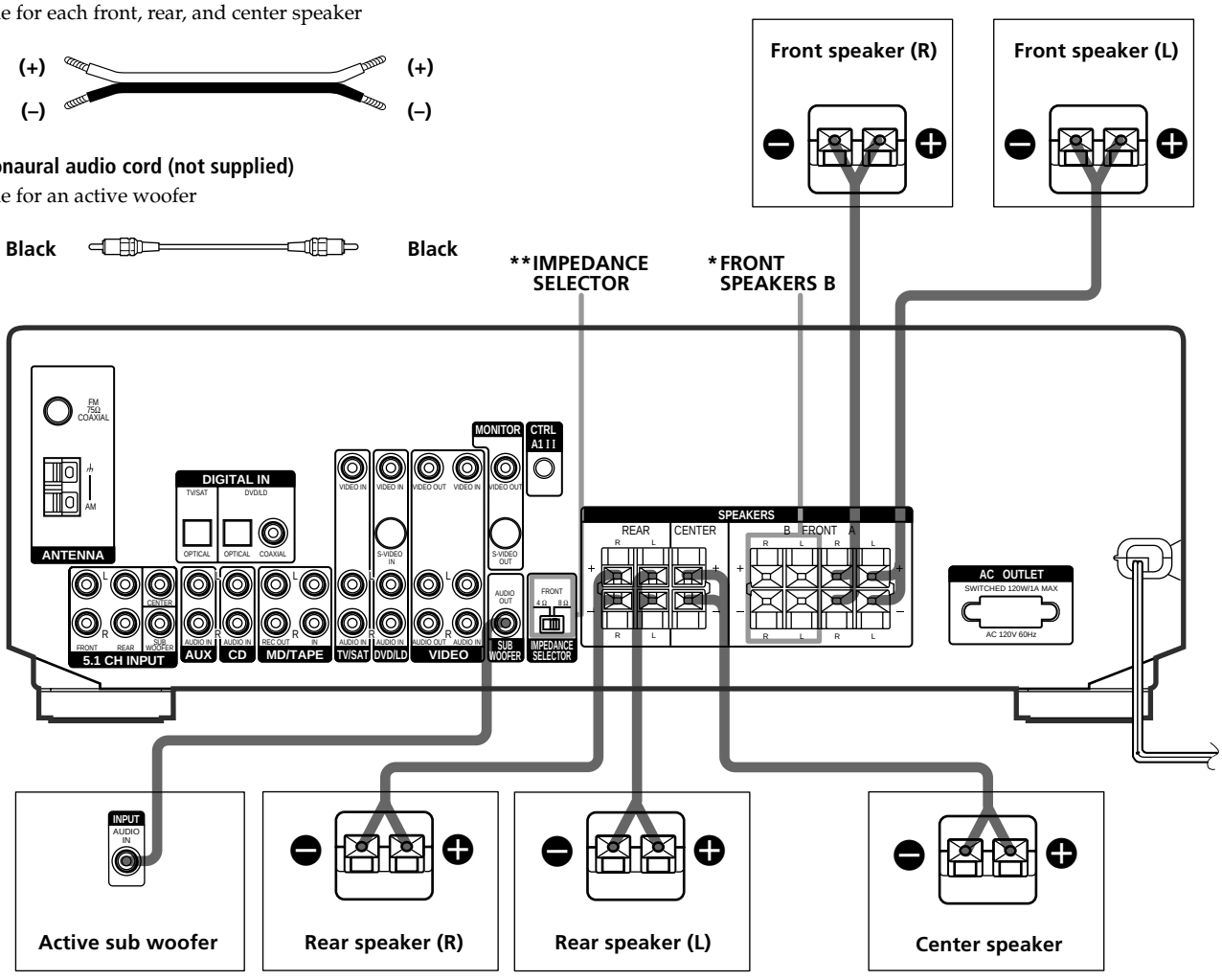
Required cords

Speaker cords (not supplied)

One for each front, rear, and center speaker

Monaural audio cord (not supplied)

One for an active woofer



Terminals for connecting the speakers

Connect the	To the
Front speakers (8 or 4** ohm)	SPEAKERS FRONT A terminals
*Additional pair of front speakers (8 or 4** ohm)	SPEAKERS FRONT B terminals
Rear speakers (8 ohm)	SPEAKERS REAR terminals
Center speaker (8 ohm)	SPEAKERS CENTER terminals
Active sub woofer	SUB WOOFER AUDIO OUT jack

* *STR-DE545 and STR-SE501 only.*

** *See "Speaker impedance" on the next page.*

Notes on speaker system hookup

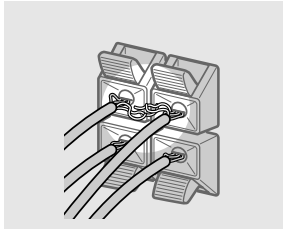
- Twist the stripped ends of the speaker cords about 2/3 inch (10 mm). Be sure to match the speaker cord to the appropriate terminal on the components: + to + and – to –. If the cords are reversed, the sound will be distorted and will lack bass.
- If you use front speakers with low maximum input rating, adjust the volume carefully to avoid excessive output on the speakers.
- You can also connect Micro Satellite Speaker (e.g. SA-VE230) to the receiver. Micro Satellite Speaker is a 5.1 Channel speaker system consisting of two front speakers, two rear speakers, one center speaker and one subwoofer.

To avoid short-circuiting the speakers

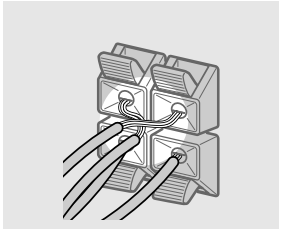
Short-circuiting of the speakers may damage the receiver. To prevent this, make sure to take the following precautions when connecting the speakers.

Make sure the stripped ends of each speaker cord does not touch another speaker terminal or the stripped end of another speaker cord.

Examples of poor conditions of the speaker cord



Stripped speaker cord is touching another speaker terminal.



Stripped cords are touching each other due to excessive removal of insulation.

After connecting all the components, speakers, and AC power cord, output a test tone to check that all the speakers are connected correctly. For details on outputting a test tone, see page 19.

If no sound is heard from a speaker while outputting a test tone or a test tone is output from a speaker other than the one whose name is currently displayed on the receiver, the speaker may be short-circuited. If this happens, check the speaker connection again.

To avoid damaging your speakers

Make sure that you turn down the volume before you turn off the receiver. When you turn on the receiver, the volume remains at the level you turn off the receiver.

Speaker impedance (STR-DE545 and STR-SE501 only)

Set the IMPEDANCE SELECTOR for the front speakers as indicated in the table below. Check the instruction manual supplied with your speakers if you're not sure of their impedance. (This information is usually printed on a label on the back of the speaker.)

If the nominal impedance of your speaker is	Set IMPEDANCE SELECTOR to
Between 4 and 8 ohms	4Ω
8 ohms or higher	8Ω

Speakers connected to the REAR and CENTER SPEAKERS terminals must have a nominal impedance of 8 ohms or higher (regardless of the setting of the IMPEDANCE SELECTOR).

Note

Be sure to connect front speakers with a nominal impedance of 8 ohms or higher if you want to select both sets (A+B) of front speakers (see page 23).

Performing Initial Setup Operations

Once you have hooked up the speakers and turned on the power, clear the receiver's memory. Then specify the speaker parameters (size, position, etc.) and perform any other initial setup operations necessary for your system.

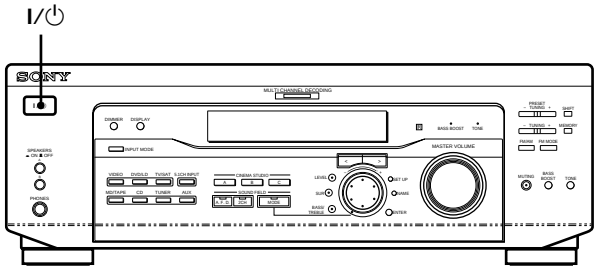
Before turning on the receiver

Make sure that you have:

- Selected the appropriate front speakers (see "7 SPEAKERS selector" on page 23). (STR-DE545 and STR-SE501 only).

Clearing the receiver's memory

Before you use your receiver for the first time or when you want to clear the receiver's memory, do the following. This procedure is not necessary if the demonstration activates when you turn the power on.



1 Turn off the receiver.

2 Hold down I/⏻ for four seconds.

The currently selected function, then the demonstration message appears in the display and the items including the following are reset or cleared:

- All preset stations are reset or cleared.
- All sound field parameters are reset to their factory settings.
- All index names (of preset stations and program sources) are cleared.
- All adjustments made with the SET UP button are reset to their factory settings.
- The sound field memorized for each program source and preset stations are cleared.

Performing initial setup operations

Before you use your receiver for the first time, use the SET UP button to adjust settings to correspond to your system. You can set the following items. For details on how to adjust each setting, see the page in parentheses.

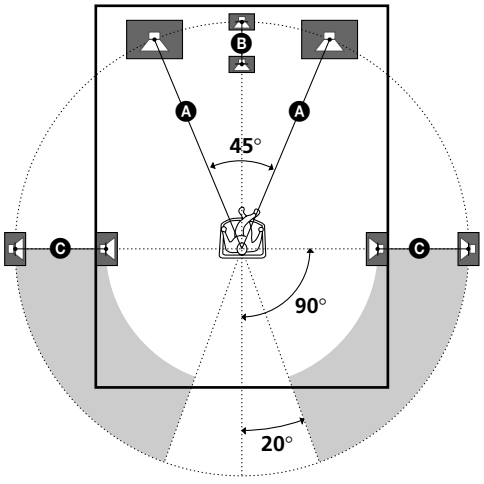
- Speaker size and placement (page 16).
- Speaker distance (page 18).
- The video signal paired with the 5.1CH INPUT (page 44).

Multi Channel Surround Setup

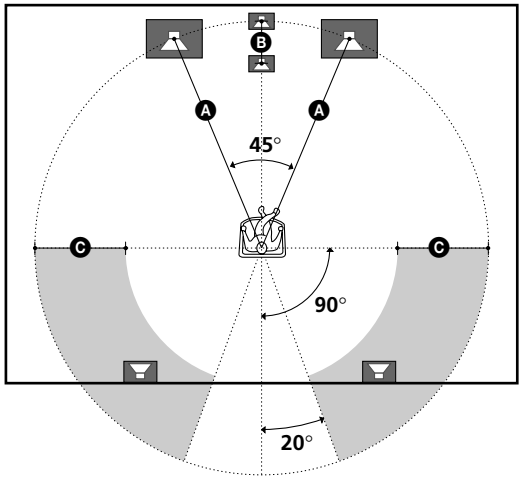
For the best possible surround sound all speakers should be the same distance from the listening position (Ⓐ). (However, this unit lets you to place the center speaker up to 5 feet (1.5 meters) closer (Ⓑ) and the rear speakers up to 15 feet (4.5 meters) closer (Ⓒ) to the listening position. The front speakers can be placed from 3 to 40 feet (1.0 to 12.0 meters) from the listening position (Ⓐ).)

You can place the rear speakers either behind you or to the side, depending on the shape of your room (etc.).

When placing rear speakers to your side



When placing the rear speakers behind you



Note

Do not place the center speaker farther away from the listening position than the front speakers.

Specifying the speaker parameters

1 Press I/⏻ to turn on the receiver.

2 Press SET UP.

3 Press the cursor buttons (< or >) to select the parameter you want to adjust.

4 Turn the jog dial to select the setting you want.
The setting is stored automatically.

5 Repeat steps 3 and 4 until you have set all of the parameters that follow.

Normal speaker and Micro Satellite speaker

Choose NORM. SP if you're using normal speakers and MICRO SP if you're using Micro Satellite speakers. If you choose NORM. SP, you can adjust the speaker size and the sub woofer selection as mentioned below. However, if you choose MICRO SP, the speaker size and the sub woofer selection has been configurated as follows:

Speakers	Settings
Front	Small
Center	Small
Rear	Small
Woofer	Yes

You cannot change the configuration if you choose MICRO SP.

For STR-SE501, the speaker size and sub woofer selection has been preset to MICRO SP according to the supplied speaker system. If you change the speaker system, choose NORM. SP to adjust the speaker size and sub woofer selection.

■ Front speaker size (L R)

Initial setting : LARGE (STR-DE545/DE445)
SMALL (STR-SE501)

- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE". Normally, select "LARGE".
- If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select "SMALL" to activate the bass redirection circuitry and output the front channel bass frequencies from the sub woofer.
- When the front speaker is set to "SMALL", the center and rear speakers are also automatically set to "SMALL" (unless previously set to "NO").

■ Center speaker size (C)

Initial setting : LARGE (STR-DE545/DE445)
SMALL (STR-SE501)

- If you connect a large speaker that will effectively reproduce bass frequencies, select “LARGE”. Normally, select “LARGE”. However, if the front speakers are set to “SMALL”, you cannot set the center speaker to “LARGE”.
- If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select “SMALL” to activate the bass redirection circuitry and output the center channel bass frequencies from the front speakers (if set to “LARGE”) or sub woofer. *1
- If you do not connect the center speaker, select “NO”. The sound of the center channel will be output from the front speakers.*2

■ Rear speaker size (LS RS)

Initial setting : LARGE (STR-DE545/DE445)
SMALL (STR-SE501)

- If you connect large speakers that will effectively reproduce bass frequencies, select “LARGE”. Normally, select “LARGE”. However, if the front speakers are set to “SMALL”, you cannot set the rear speakers to “LARGE”.
- If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select “SMALL” to activate the bass redirection circuitry and output the rear channel bass frequencies from the sub woofer or other “LARGE” speakers.
- If you do not connect rear speakers, select “NO”.*3

***1~*3 correspond to the following Dolby Pro Logic modes**

*1 NORMAL
*2 PHANTOM
*3 3 STEREO

About speaker sizes (LARGE and SMALL)

Internally, the LARGE and SMALL settings for each speaker determine whether or not the internal sound processor will cut the bass signal from that channel. When the bass is cut from a channel the bass redirection circuitry sends the corresponding bass frequencies to the sub woofer or other “LARGE” speaker. However, since bass sounds have a certain amount of directionality it best not to cut them, if possible. Therefore, even when using small speakers, you can set them to “LARGE” if you want to output the bass frequencies from that speaker. On the other hand, if you are using a large speaker, but prefer not to have bass frequencies output from that speaker, set it to “SMALL”.

If the overall sound level is lower than you prefer, set all speakers to “LARGE”. If there is not enough bass, you can use the bass/treble to boost the bass levels. To adjust the bass/treble, see page 35.

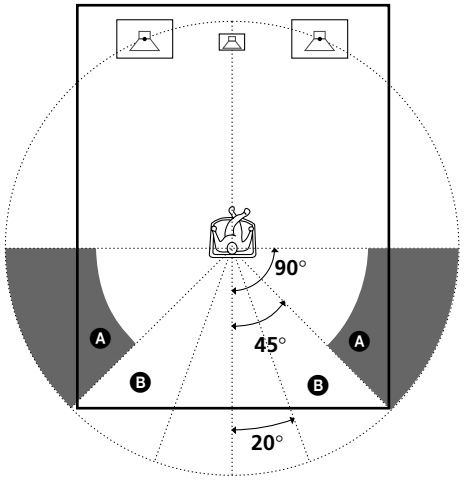
■ Rear speaker position (REAR PL.)*

Initial setting : BEHIND

This parameter lets you specify the location of your rear speakers for proper implementation of the Digital Cinema Sound surround modes in the “VIRTUAL” sound fields. Refer to the illustration below.

- Select “SIDE” if the location of your rear speakers corresponds to section A.
- Select “BEHIND” if the location of your rear speakers corresponds to section B.

This setting only effects the surround modes in the “VIRTUAL” sound fields.



* These parameters are not available when “Rear speaker size (REAR)” is set to “NO”.

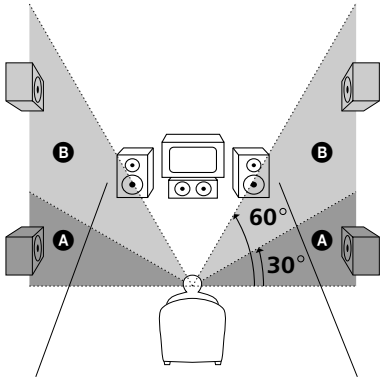
■ Rear speaker height (REAR HGT.)*

Initial setting : LOW

This parameter lets you specify the height of your rear speakers for proper implementation of the Digital Cinema Sound surround modes in the "VIRTUAL" sound fields. Refer to the illustration below.

- Select "LOW" if the location of your rear speakers corresponds to section Ⓐ.
- Select "HIGH" if the location of your rear speakers corresponds to section Ⓑ.

This setting only affects the surround modes in the "VIRTUAL" sound fields.



* These parameters are not available when "Rear speaker size (REAR)" is set to "NO".

About the rear speaker position (SIDE, and BEHIND)

This setting is designed specifically for implementation of the Digital Cinema Sound modes in the "VIRTUAL" sound fields. With the Digital Cinema Sound modes, speaker position is not as critical as other modes. All of the modes in the "VIRTUAL" sound fields were designed under the premise that the rear speaker would be located behind the listening position, but presentation remains fairly consistent even with the rear speakers positioned at a rather wide angle. However, if the speakers are pointing toward the listener from the immediate left and right of the listening position, the "VIRTUAL" sound fields will not be effective unless the rear speaker position parameter is set to "SIDE".

Nevertheless, each listening environment has many variables, such as wall reflections, and you may obtain better results using "BEHIND" if your speakers are located high above the listening position, even if they are to the immediate left and right. Therefore, although it may result in a setting contrary to the "Rear speaker position" explanation, we recommend that you play back multi channel surround encoded software and listen to the effect each setting has on your listening environment. Choose the setting that provides a good sense of spaciousness and that best succeeds in forming a cohesive space between the surround sound from the rear speakers and the sound from the front speakers. If you are not sure which sounds best, select "BEHIND" and then use the speaker distance parameter and speaker level adjustments to obtain proper balance.

■ Sub woofer selection (SUB WOOFER)

Initial setting : YES

- If you connect a sub woofer, select "YES".
- If you do not connect a sub woofer, select "NO". This activates the bass redirection circuitry and outputs the LFE signals from other speakers.
- In order to take full advantage of the Dolby Digital (AC-3) bass redirection circuitry, we recommend setting the sub woofer's cut off frequency as high as possible.

■ Front speaker distance (FRONT)

Initial setting : 16 feet

Set the distance from your listening position to the front (left or right) speaker (Ⓐ on page 16).

- Front speaker distance can be set in 1 foot (0.1 meter) steps from 3 to 40 feet (1.0 to 12.0 meters).
- If both speakers are not placed an equal distance from your listening position, set the distance to the closest speaker.

■ Center speaker distance (CENTER)

Initial setting : 16 feet

Set the distance from your listening position to the center speaker.

- Center speaker distance can be set in 1 foot (0.1 meter) steps from a distance equal to the front speaker distance (Ⓐ on page 16) to a distance 5 feet (1.5 meters) closer to your listening position (Ⓑ on page 16).
- Do not place the center speaker farther away from your listening position than the front speakers.

■ Rear speaker distance (REAR)

Initial setting : 11 feet

Set the distance from your listening position to the rear (left or right) speaker.

- Rear speaker distance can be set in 1 foot (0.1 meter) steps from a distance equal to the front speaker distance (Ⓐ on page 16) to a distance 15 feet (4.5 meters) closer to your listening position (Ⓒ on page 16).
- Do not place the rear speakers farther away from your listening position than the front speakers.
- If both speakers are not placed an equal distance from your listening position, set the distance to the closest speaker.

About speaker distances

This receiver allows you to input the speaker position in terms of distance. However, it is not possible to set the center speaker farther away than the front speakers. Also, the center speaker can not be set more that 5 feet (1.5 meters) closer than the front speakers.

Likewise, the rear speakers cannot be set farther away from the listening position than the front speakers. And they can be no more than 15 feet (4.5 meters) closer.

This is because incorrect speaker placement is not conducive to enjoy the surround sound.

Please note that, setting the speaker distance closer than the actual location of the speakers will cause a delay in the output of the sound from that speaker. In other words, the speaker will sound like it is farther away.

For example, setting the center speaker distance 3~6 feet (1~2 m) closer than the actual speaker position will create a fairly realistic sensation of being "inside" the screen. If you cannot obtain a satisfactory surround effect because the rear speakers are too close, setting the rear speaker distance closer (shorter) than the actual distance will create a larger soundstage. (1 foot corresponds to a 1 ms difference.)

Adjusting these parameters while listening to the sound often results in much better surround sound. Give it a try!

Adjusting the speaker volume

Use the remote while seated in your listening position to adjust the volume of each speaker.

Note

This receiver incorporates a new test tone with a frequency centered at 800 Hz for easier speaker volume adjustment.

1 Press I/⏻ to turn on the receiver.

2 Press TEST TONE on the supplied remote.

You will hear the test tone from each speaker in sequence.

3 Adjust the volume level so that the volume of the test tone from each speaker sounds the same when you are in your main listening position.

- To adjust the balance of the front right and front left speakers, use the front balance parameter in the LEVEL menu (see page 34).
- To adjust the balance of the rear right and rear left speakers, use the rear balance parameter in the LEVEL menu (see page 34).
- To adjust the volume level of the center speaker, press MENU </> to select the center parameter. Use +/– on the remote to adjust the level.
- To adjust the volume level of the rear speaker, press MENU </> to select the rear parameter. Use +/– on the remote to adjust the level.

4 Press TEST TONE on the remote again to turn off the test tone.

Note

The test tone cannot be output when the receiver is set to 5.1CH INPUT.

You can adjust the volume level of all speakers at the same time

Rotate MASTER VOLUME on the receiver or press MASTER VOL +/– on the remote.

Notes

- The front balance, rear balance, center level, and rear level are shown in the display during adjustment.
- Although these adjustments can also be made via the front panel using the LEVEL menu (when the test tone is output, the receiver switches to the LEVEL menu automatically), we recommend you follow the procedure previously described in this section and adjust the speaker levels from your listening position using the remote control.

When setting the volume levels for each speaker

Let's assume that you have matched the sound levels of all the speakers using the test tone. Although this lays the foundation for high quality surround sound, it may be necessary to make further adjustments while listening to playback of actual software. This is because most software contains center and rear channels recorded at slightly lower levels than the two front channels.

When you actually play back software recorded in multi channel surround, you will notice that increasing the center and rear speaker levels produces a better blend between the front and center speakers and greater cohesion between the front and rear speakers. Increasing the level of the center speaker about 1 dB, and the rear speakers about 1~2 dB is likely to produce better results.

In other words, in order to create a more cohesive soundstage with balanced dialog, we recommend that you make some adjustments while playing your software. Changes of only 1 dB can make a huge difference in the character of the soundstage.

Before You Use Your Receiver

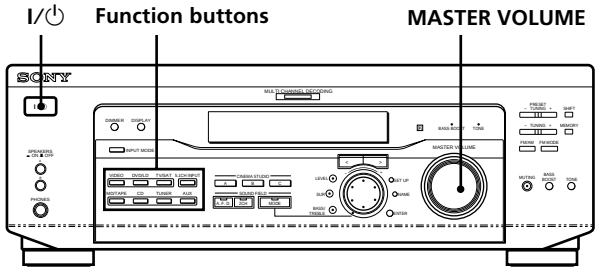
Before turning on the receiver

Make sure that you have:

- Selected the appropriate front speakers (see "7 SPEAKERS selector" on page 23). (STR-DE545 and STR-SE501 only).

Checking the connections

After connecting all of your components to the receiver, do the following to verify that the connections were made correctly.



1 Press I/⏻ to turn on the receiver.

2 Press a function button to select a component (program source) that you connected (e.g., CD player or tape deck).

3 Turn on the component and start playing it.

4 Rotate MASTER VOLUME to turn up the volume.

If you do not obtain normal sound output after performing this procedure, look for the reason in the following checklist and take the appropriate measures to correct the problem.

There is no sound no matter which component is selected.

- ➡ Check that both the receiver and all components are turned on.
- ➡ Check that the volume level on the display is not set to VOL MIN by turning the MASTER VOLUME.
- ➡ Check that the SPEAKERS selector is not set to OFF or to a position for front speakers that are not connected to the receiver (see "7 SPEAKERS selector" on page 23). (STR-DE545 and STR-SE501 only)
- ➡ Check that all speaker cords are connected correctly.
- ➡ Press the MUTING button to turn off the indicator.

There's no sound from a specific component.

➡ Check that the component is connected correctly to the audio input jacks for that component.

➡ Check that the cord(s) used for the connection is (are) fully inserted into the jacks on both the receiver and the component.

No sound is heard from one of the front speakers.

➡ Connect a pair of headphones to the PHONES jack and set the SPEAKERS selector to OFF to verify that sound is output from the headphones (see "7 SPEAKERS selector" and "PHONES jack" on page 23).

If only one channel is output from the headphones, the component may not be connected to the receiver correctly. Check that all the cords are fully inserted into the jacks on both the receiver and the component.

If both channels are output from the headphones, the front speaker may not be connected to the receiver correctly. Check the connection of the front speaker which is not outputting any sound.

If you encounter a problem that is not included above, see "Troubleshooting" on page 45.

Location of Parts and Basic Operations

This chapter provides information about the locations and functions of the buttons and controls on the front panel. It also explains basic operations.

Front Panel Parts Descriptions

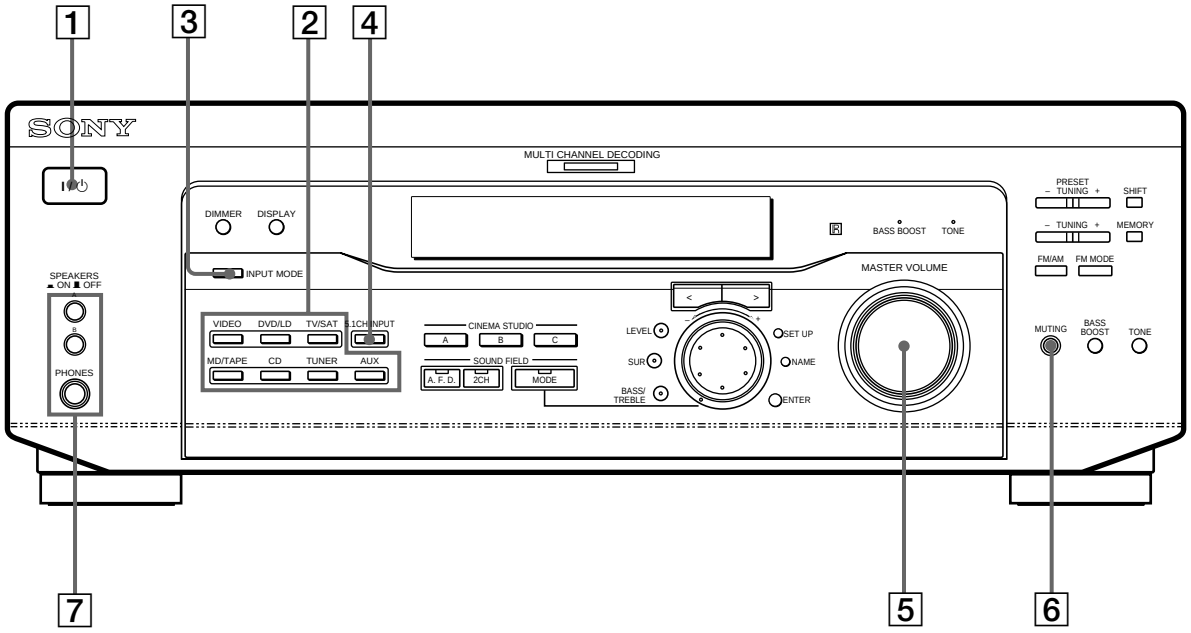
1 I/⏻ switch
Press to turn the receiver on and off.

2 Function buttons
Press one of the buttons to select the component you want to use.

To select	Press
VCR	VIDEO
TV or satellite tuner	TV/SAT
DVD or LD player	DVD/LD
MD or Tape deck	MD/TAPE
CD player	CD
Built in tuner	TUNER
An audio component	AUX

After selecting the component, turn on the component you selected and play the program source.

- After selecting VCR, DVD player, or LD player, turn on the TV and set the TV's video input to match the component you selected.



3 INPUT MODE button

Press to select the input mode for your digital components (DVD/LD and TV/SAT).
Each press switches the input mode of the currently selected component.

Select	To
AUTO	Give priority to digital signals when there are both digital and analog connections. If there are no digital signals, analog is selected
DIGITAL (OPTICAL)	Specify the digital audio signals input to the DIGITAL OPTICAL input jacks
DIGITAL (COAXIAL)	Specify the digital audio signals input to the DIGITAL COAXIAL input jacks (DVD/LD only)
ANALOG	Specify the analog audio signals input to the AUDIO IN (L and R) jacks

4 5.1CH INPUT button

Press to enjoy the audio source connected to the 5.1CH INPUT jacks with the video from the selected component.

- When the 5.1CH INPUT is selected, the tone, bass boost, and sound field effects do not function.
- To change the video input displayed when 5.1CH INPUT is selected, press SET UP (22) and then press the cursor buttons (20) repeatedly to select "5.1 V. IN" (see page 44 for details).

5 MASTER VOLUME control

After turning on the component you selected, rotate to adjust the volume.

6 MUTING button

Press to mute the sound. The indicator lights up when the sound is muted.

7 SPEAKERS selector (STR-DE545 and STR-SE501 only)

Press according to the front speakers you want to drive.

Press	To select
A	The speakers connected to the FRONT SPEAKERS A terminals
B	The speakers connected to the FRONT SPEAKERS B terminals
A+B*	The speakers connected to both the FRONT SPEAKERS A and B terminals (parallel connection)

* *Be sure to connect the front speakers with nominal impedance of 8 ohms or higher if you want to select both sets of front speakers.*

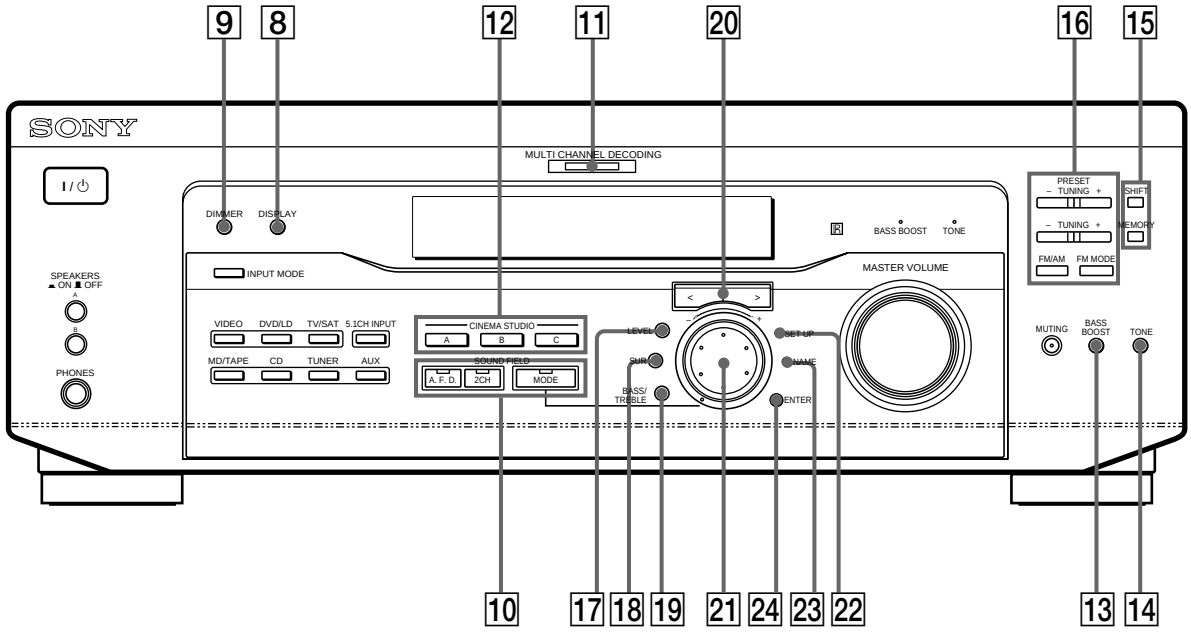
STR-DE445 only

Press SPEAKERS button to ON.

PHONES jack

Connects headphones.

- To use the headphones, press the SPEAKERS button to OFF to output sound to the headphones.
- When listening to the headphones, set the sound field to 2CH to get the correct soundstage.



8 DISPLAY button

Press repeatedly to change the information on the display window as follows:

Index name of the component or the preset station*

↓

FUNCTION button indication or frequency**

↓

Sound field applied to the program source

* *Index name appears only when you have assigned one to the component or preset station (see page 42). Index name does not appear when only blank spaces have been entered, or it is the same as the function button.*

** *Frequency appears only when the tuner is selected.*

9 DIMMER button

Press repeatedly to adjust the brightness of the display.

10 Use the SOUND FIELD buttons to enjoy surround sound. For details, see "Enjoying Surround Sound" starting from page 27.

A.F.D. button / indicator

Press to set the receiver to automatically detect the type of audio signal being input and perform proper decoding (if necessary).

2CH button / indicator

Press to output sound from only the front (left and right) speakers.

MODE button / indicator

Press to activate the sound field selection mode (page 28).

11 MULTI CHANNEL DECODING indicator

This indicator lights up when the unit is decoding signals recorded in a multi channel format.

12 Use the CINEMA STUDIO buttons to enjoy the CINEMA STUDIO sound effects.

A/B/C buttons

Press to activate the CINEMA STUDIO A, B or C sound field (page 29).

13 BASS BOOST button

Press to increase the bass of the front speakers. The BASS BOOST indicator lights up when the function is turned on.

14 TONE button

Press to turn the tone effect on or off. The TONE indicator lights up while the tone effect is turned on. Note that if you have adjusted the tone using the cursor buttons and jog dial, the adjusted tone will be produced whenever you turn on the tone effect.

When you want to listen to an analog source without any digital processing

Do the following to bypass the sound field, tone, and bass booster circuits.

1 Press 2CH.
2 Press BASS BOOST to turn off the BASS BOOST indicator.
3 Press TONE to turn off the TONE indicator.

The result will be a sound that is highly faithful to the program source.

15 The following buttons operate the built-in tuner. For details, see "Receiving Broadcasts" starting from page 37.

SHIFT button

Selects a memory page for preset stations.

MEMORY button

Press to memorize a preset station.

16 The following buttons operate the built-in tuner. For details, see "Receiving Broadcasts" starting from page 37.

PRESET TUNING +/– buttons

Scan all preset stations.

TUNING +/– buttons

Scan all the available radio stations.

FM/AM button

Selects the FM or AM band.

FM MODE button

If "STEREO" flashes in the display and the FM stereo reception is poor, press this button. You will not have the stereo effect but the sound is improved.

17 LEVEL button

Press to activate the speaker level parameters (page 34). The indicator on the button lights up and you can adjust the various speaker level parameters (front balance, rear balance, etc.).

18 SUR button

Press to activate the surround parameters (page 33). The indicator on the button lights up and you can adjust the various surround parameters (effect level, wall type, etc.).

19 BASS/TREBLE button

Press this button to adjust the tone (page 35).

20 Cursor buttons (</>)

Press to select various speaker level, surround, and bass/treble parameters (etc.).

21 Jog dial

Turn to adjust the selected speaker level, surround, and bass/treble parameters (etc.).

22 SET UP button

Press to activate the setup mode, then use the cursor buttons (20) to select any of the following indications. You can then make various settings using the jog dial (21).

When you select	You can
Speaker type	Specify the type of speakers. (page 16)
Speaker setup	Specify the front, center, rear speaker sizes, the rear speaker position, and whether or not you are using a sub woofer. (page 16)
Speaker Distance	Specify the front, center, and rear speaker distances. (page 18)
5.1CH video input	Specify the video input to be used with the audio signals from the 5.1CH INPUT jacks. (page 44)

23 NAME button

Press to activate the name function and enter names for preset stations and program sources (page 42).

24 ENTER button

Press to enter individual characters for the preset station and program source names.

Enjoying Surround Sound

This chapter describes how to set up the receiver to enjoy surround sound. You can enjoy multi channel surround when playing back software encoded with Dolby Digital or DTS.

You can take advantage of surround sound simply by selecting one of the receiver's pre-programmed sound modes. They bring the exciting and powerful sound of movie theaters and concert halls into your home. You can also customize the sound modes to obtain the sound you desire by changing the various surround parameters.
The receiver contains a variety of different sound modes. The cinema sound modes are designed for use when playing back movie software (DVD, LD, etc.) encoded with multi channel surround sound or Dolby Pro Logic. In addition to decoding the surround sound, some of these modes also provide sound effects commonly found in movie theaters.
The virtual sound modes contain compelling applications of the Sony Digital Cinema Sound digital signal processing technology. They shift the sound away from the actual speaker locations to simulate the presence of several "virtual" speakers.
The music (etc.) sound modes are designed for use with standard audio sources and TV broadcasts. They add reverberation to the source signal to make you feel as if you were in a concert hall or stadium (etc.). Use these sound modes with two-channel sources like CD and stereo broadcasts of sports programs or musical concerts. For more information about the sound modes, see pages 29 – 30.

A.F.D.
The "Auto Format Decoding" sound mode presents the sound exactly as it was encoded, without adding any reverberation (etc.).

To fully enjoy surround sound, you must register the number and location of your speakers. See "Multi-Channel Surround setup" starting on page 16 to set the speaker parameters before enjoying surround sound.